A bipartisan group of House lawmakers hopes to capitalize on surprise Senate support to give retailers more leverage over banks on the charges attached to debit-card transactions.

"The game has changed," Rep. Peter Welch (D., Vt.) said Tuesday. "Once we got that strong bipartisan vote it made a big difference."

The Senate in a broader financial overhaul legislation last week included an amendment that would allow the Federal Reserve to regulate the fees card companies charge retailers for accepting debit cards. The amendment is anathema to the financial-services industry but, in a vote that caught lobbyists off guard, the measure passed with strong bipartisan support.

Mr. Welch and a group of House lawmakers are urging that Senate language be kept when House and Senate negotiators finalize the regulatory overhaul bill over the coming weeks. They plan on speaking to Rep. Barney Frank (D., Mass.) and other conferees, and are encouraging small business owners to reach out to members of Congress to push the issue.

Rep. Walter Jones (R., N.C.) said House support for including the interchange-fee language should be bipartisan and noted that the Senate vote on the amendment was bipartisan. Mr. Welch said members could be challenged to side with the banking industry if the issue comes up for a vote.

"You put this on the floor for a vote ... a lot of folks are going to want to stand up for the small businesses," he said.